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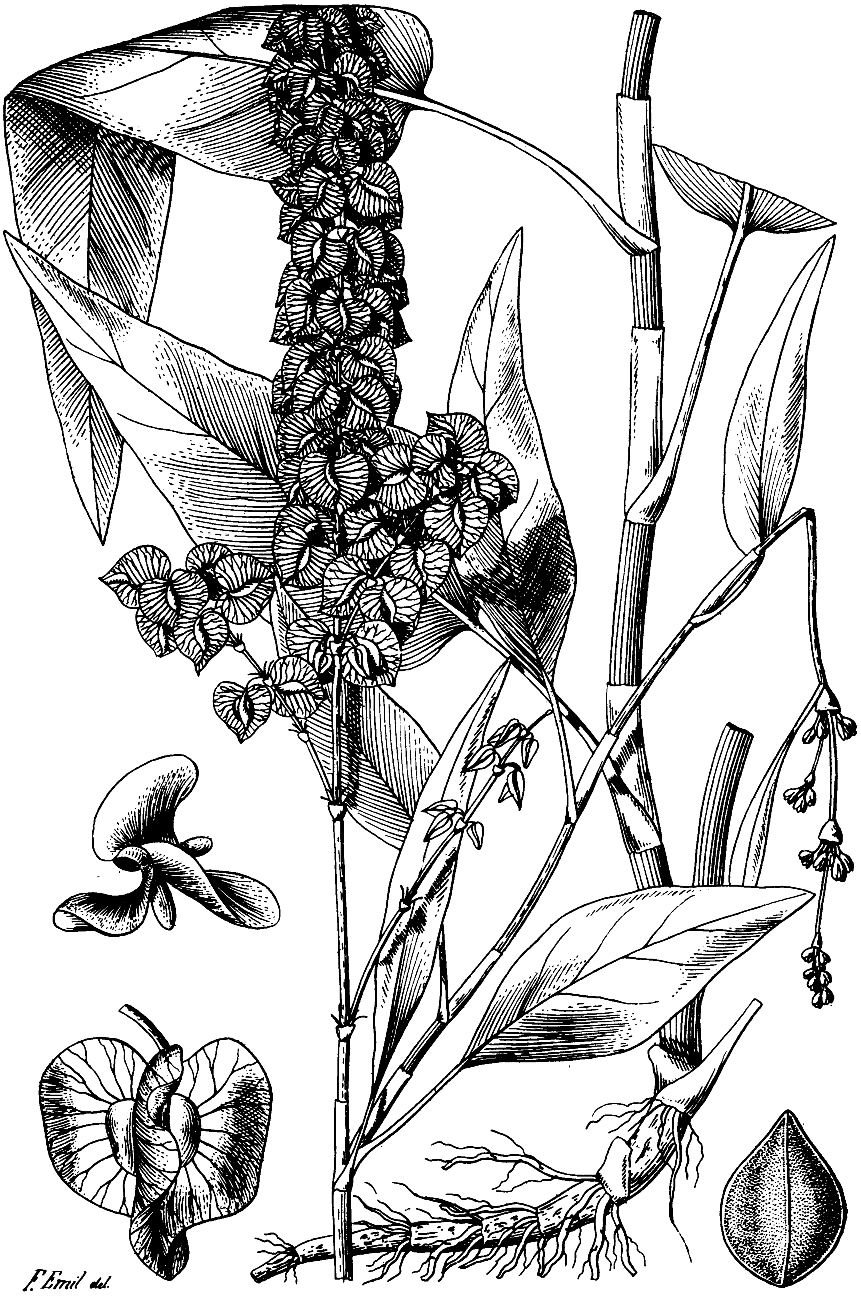

RUMEX SPIRALIS SMALL.

cells; perichaetial leaves surrounding the capsules, ovate-lanceolate; capsules, small, broader than long, cupuliform when old; lid persistent on the columella, bordered with red; peristome none, mouth bordered; spores .048–.054 mm., green with a minutely roughened coat, maturing in August and September.

"Spokane Falls, Washington Territory, collected by Sereno Watson, September 24, 1870." Presumably the same specimens are referred to in the manual under *G. Scouleri*, Müller, as being abundant. Distributed with the plants collected on Clarence King's Expedition on the Exploration of the 40th Parallel.

Since collected by Marshall A. Howe on rocks just above the water in the Sacramento River, Sims, Shasta county, Cal., August 10, 1894.

Closely allied to *S. Patagonica*, but the marginal cells are less dense, often only one layer of cells, but larger and square in section.

Description of Plate 227.

Fig. 1. Plants natural size. 2. Capsule enlarged, lid on. 3. Capsule after dehiscence of lid. 4–5. Outlines of leaves. 6. Basal cells of leaf. 7. Apex of leaf. 8. Cells from the middle of the leaf, showing the elongated, submarginal cells. 9. Cross-sections of leaf, showing the thickened margins. 10. Cells from the upper surface of the leaf. 11. Spores.

Studies in the Botany of the Southeastern United States.—III.

By John K. Small.

(Plate 228.)

Tsuga Caroliniana Engelm. Coult. Bot. Gaz. **6**: 223 (1881).

This tree can now be added to the flora of Georgia. Formerly it was known only from the Carolinas and Virginia. There it grew at altitudes ranging from 2,100–5,000 feet. I found it in 1893 growing on the southern ledges of the cañon at Tallulah Falls, thus extending its range many miles to the south and its altitude to 1,600 feet. It was most plentiful about 300–400 feet above the river and reached no great development on account of the scarcity of soil and the perpendicular position of its place of growth. As was the case in all the other localities where I saw this species, *Tsuga Canadensis* was present and rather the more plentiful of the two, thus serving to show the great contrast between these two hemlocks.

CYPERUS SQUARROSUS L.

This most beautiful little species of *Cyperus* has been found for the first time on the North American continent at Jacksonville, Florida, by Mr. A. H. Curtiss. The Florida specimens agree exactly with Wright's Cuba collection, No. 3355 (distributed as *C. aristatus*), also with plants from the Antilles, Surinam (Schweinitz), and Bailies' Niger Expedition of 1857–9 as well as with East Indian specimens.

JUNCUS GEORGIANUS Coville.*

RUMEX SPIRALIS n. sp.

Perennial, slender, glabrous, light-green, somewhat glaucescent. Rootstock woody, creeping, 1–2 dm. long; roots fibrous; stem erect, 8–9 dm. long, simple or sparingly branched above, leafy throughout, slightly flexuous, strongly channeled, woody below; leaves lanceolate or oblong-lanceolate, 6–13 cm. long, 1.5–4.5 cm broad, acute or sometimes attenuate at the apex, the lower ones obtuse or truncate at the base, the upper acute or acuminate at the base, all rather long petioled, coriaccous, light green, undulate and crisped, neither prominently nor conspicuously nerved; petioles strict, 2–5 cm. long; orceae cylindric nearly one half as long as the internodes; inflorescence terminal, simply paniculate, naked; racemes (fruiting) 5–12 cm. long, dense, rather erect, the terminal one usually about twice as long as the lateral ones; calyx 2 mm. broad; pedicels varying from 2–4 mm. in length, jointed below the middle; wings broadly ovate cordate, broader than high, 1 cm. long, 1–1.2 cm. broad, straw-colored, sometimes slightly constricted below the apex, conspicuously and prominently nerved, crenulate and undulate, each one bearing an oblong-ovoid callosity, the three wings strongly spirally twisted; achene broadly oblong-ovoid, 3 mm. long, short-pointed, chestnut colored, its faces nearly flat, its angles conspicuously margined. Plate 228.

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*Juncus Georgianus Coville n. sp.

Perennial, densely tufted, 20 to 35 cm. high; stems erect, barely exceeding 1 mm. in diameter, striate when dry; leaves all radical; sheaths striate, stramineous, loose, minutely auriculate, commonly 2 to 4 cm. long, the innermost closely embracing the stem and sometimes reaching a length of 8 cm.; blades erect, some of them reaching at least the base of the inflorescence, transversely flattened, nodeless, striate on the back, 1 mm. or less in width, sometimes involute when dry, sharply acute at apex; inflorescence paniculate, about 5 to 10 cm. high, strict or only slightly spreading; lowest involucral leaf foliose, not exceeding the panicle; flowers rarely more than 25, usually not more than 10, inserted singly on the branches of the panicle, prophyllate; perianth 4 to 6 mm. long, its parts subulate-lanceolate, when young with a green midrib, usually reddish brown lateral stripes, and hyaline margins, when old stramineous; stamens 6, one-half to two-thirds the length of the perianth, the anthers 1.5 to 2 mm. in length and several times longer than the filaments; style and stigma long, the former often reaching 2, the latter 3, mm. in length; capsule about three-fourths as long as the perianth, narrowly oblong-lanceolate in outline, obtuse or broadly acute, mucronate, 3-celled; seed about 0.4 to 0.5 mm. in length, oblong, reticulate, the areolæ linear and arranged transversely on the seed in about sixteen longitudinal rows.

Type specimen in the U. S. National Herbarium, collected in May, 1869, on Stone Mountain, Georgia, by William M. Canby.

This plant is most nearly related to *Juncus tenuis*, but is easily distinguishable from that species by its long radical leaves, its longer and brown-striped perianth, narrower capsules, and especially by its very long anthers. Contrasted with *Juncus tenuis*, the long radical leaves, short stems, and large inflorescence of *J. Georgianus* give the plant a characteristic general appearance. Mr. Canby's specimens were distributed doubtfully identified as *J. tenuis*, and no botanist seems to have collected the plant since, until Mr. Small rediscovered it July 4, 1893, on the summit of Stone Mountain, at the altitude of 1686 feet. He collected it also on Little Stone Mountain, July 7, 1893, between 1,000 and 1,100 feet altitude.

FREDERIC VERNON COVILLE.

Found growing in the mud on the margins of ponds near Kenedy, Carnes county, Texas, by Mr. A. A. Heller, collected in flower and fruit on May 26, 1894. The altitude of the station is about 400 feet.

Its nearest relative is *Rumex altissimus*, from which, however, it differs in having more characteristically lanceolate leaves, which are longer-petioled, crisped and the larger ones more or less truncate at the base instead of acuminate. The panicle of *R. spiralis* is more open, not leafy, and its racemes are denser and thicker. Wings twice to thrice as large as in *R. altissimus* invest the broadly oblong-ovoid achene. The former are broader than high and strikingly cordate, whereas those of *R. altissimus* are higher than broad, not strongly cordate and less prominently nerved. So far as observed three callosities are developed throughout.

BAPTISIA SERENAE M. A. Curtis, Amer. Journ. Sci. (I.) 7 : 406 (1845).

The range of this species, heretofore confined to the uplands and foot-hills in South Carolina and Georgia, has now been extended into the low country by its discovery by Miss Katherine A. Taylor in the pine barrens about Summerville, South Carolina.

OXALIS RECURVA Ell. Bot. S. C. & Ga. 1 : 526 (1821).

Since writing my paper on the above species, which was published in the November BULLETIN, the plant has been found by Prof. A. Ruth and Mr. T. H. Kearney, Jr., at Wolf Creek, Eastern Tennessee, and by myself at the Falls of the Yadkin River, in Stanley county, middle North Carolina, where it grows in the sand in shady places at the bottom of the cañon. The latter locality is within the range as formerly known, but the former is a little west of the range shown in the above cited paper.

HYPERICUM BUCKLEYI M. A. Curtis. Amer. Journ. Sci. 44: 80 (1843).

When on the summit of the Thomas Bald, on the Georgia and North Carolina boundary, in 1893, I encountered a peculiar *Hypericum.* This summit is nearly 5,300 feet above the sea level and is remarkable for its shape, which is almost knife-like, being but a few yards broad and three miles long by actual measurement. The top, which is composed of soil and outcropping gneiss, is free from timber, except a few scattered red oaks. On the gneiss outcrops this *Hypericum* forms dense cushions and mats, rising above the ground only two inches. Altitude has had a striking effect on the species there and at first sight one is not inclined to refer it to the above. The locality is in view of the original and later stations for *H. Buckleyi* and a comparison with all the material at hand shows these differences. Its leaves are at least one-half smaller than the usual and rather constant form. The seeds are one-third smaller and more curved, while the flower and all its parts, together with the capsule, are also one-third smaller than those from the neighboring territory.

MONNIERA CRENULATA n. sp.

Perennial, bright green, very aromatic. Stem procumbent or decumbent, creeping, ascending at the ends, 3–6 dm. long, branched from the creeping nodes, more or less channeled, pilose with rather rigid, irregularly jointed hairs; leaves broadly or orbicular-ovate, 1.5–2.5 cm. long, 1.5–2.2 cm. broad, subcordate and amplexicaul, obtuse or slightly emarginate at the apex, remotely but distinctly crenulate, mostly eight-nerved, obscurely pilose-ciliate near the base and on the midrib beneath, glandular-punctate, exceeding the internodes, except on the lower part of the stem; pedicels 1–1.5 cm. long, pilose; bractlets 1 cm. long, very similar to the leaves in shape, texture, etc., but eciliate except a tuft of hair at the apex; calyx segments lanceolate, ciliate, nearly equalling the bractlets; corolla campanulate, 1–1.3 cm.

long, slightly unsymmetrical, cleft for about one-third of its length; style about equalling the distal pair of stamens; capsule ovoid-oblong.

Found by Mr. A. H. Curtiss, growing in the bottom of ditches between Jacksonville and Trout Creek, Florida, on July 13th 1893.

The above described species is related to *Monniera amplexicaulis* of Florida, but is easily separated from it by its much larger size, its broader leaves, the elongated pedicel and the larger flowers. In some respects it is closely related to *M. lanigera* of the tropics, but in the latter species the nerving of the leaves is pinnate and the intenodes longer than the leaves, while in *M. crenulata* the leaves are flabellinerved and longer than the intenodes.

LYCOPERSICUM ESCULENTUM Mill.

Is spontaneous about the village of Stone Mountain, Georgia, and also at points along the Georgia Railroad.

COREOPSIS LONGIFOLIA n. sp.

Annual or perennial (?) from an enlarged and somewhat woody base, slender, glabrous, bright green. Stem erect, 7–10 dm. long, simple or sparingly branched at the summit, not angled but channeled by twelve or thirteen grooves, leafy on the lower half, naked above, slightly flexuous; leaves linear-oblong, linear-lanceolate or linear, 7–10 cm. long, .2–1 cm. broad, acutish, acuminate at the base, long-petioled, reduced above to narrow and inconspicuous bracts; petioles 6–8 cm. long, very narrowly winged, enlarged at the base, in most cases forming a short sheath which clasps the stem; heads 1–6, about one hundred flowered, 3–4 cm. broad; rays yellow, eight, 1.5–2 cm. long, spatulate or oblanceolate, three-cleft, the segments acutish or the middle one obtuse; the outer involucral scales lanceolate, marked with a dark rib, the inner scales twice as long as the outer, oblong-elliptic, thin, acutish, tipped with brown; floral scales, linear, 6 cm. long, acutish; flowers, 4 cm. long, style slightly exserted, two-cleft; achene obovoid or spatulate in outline, black, the awns mostly fugacious, the wings pectinate, the segments equal or nearly so.

Related to *C. angustifolia*, from which species it differs in its more slender build, the striking length of the leaves and the larger flowers. The achene is also larger and of a darker color. In *C. angustifolia* to the wings of the achene are cut in an irregular manner and the awns persistent, while the wings in *C. longifolia* are regularly and evenly divided and the arms mostly fugacious.

The type was found in dry, grassy pine woods about Jacksonville, Florida, by Mr. A. H. Curtiss on October 16, 1893.

COREOPSIS MAJOR LINEARIS n. var.

Perennial by a slender creeping root-stock, slender, sparingly and inconspicuously pubescent. Stem erect, 3–5 dm. long, simple, conspicuously channeled; leaves three-parted, the segments linear, 3–11 cm. long, 1–3 mm. broad, acuminate at both ends; heads solitary, 3–4 cm. broad; outer involucral bracts 4 mm. long, oblong, obtuse; rays oblong obtuse, somewhat two-cleft; achene smaller than in the typical form.

Although reluctant to describe varieties the above is so distinct from *Coreopsis major* that it would be hardly fair to pass it. It is much more distinct than the variety *Oelmeri.* The strongest characters are the very slender build and the strikingly narrow leaf-segments which average about 2 mm. in breadth. Their length is also greater than we find the ordinary forms of the type.

I noticed the plant at different localities in middle Georgia, and collected it on Little Stone Mountain, at the base of Stone Mountain, and also in the Yellow River Valley, in Gwinnette county.

COREOPSIS MAJOR Walt. Fl. Cor. 214 (1788).

A peculiar state of this species has been coming to my notice for a year or two. It is the above with its leaves undivided, there being two opposite and entire leaves at each node in place of the normal three-parted ones. It seems to have been first collected by Dr. and Mrs. Britton, at Black Mountain Station, North Carolina. Later Mr. Heller secured it near Salisbury, N. C., and last season (1893) I came upon it at the western base of Stone Mountain, Georgia. Besides having this state we have an intermediate one in which the upper leaves are entire and the lower ones three-parted in the usual manner. This latter was secured by Dr. and Mrs. Britton at Balcony Falls, Virginia (1885).

New Plants from Idaho.

BY LOUIS F. HENDERSON.

PHACELIA IDAHOENSIS, n. sp.

A foot and a half to two feet high, from nearly glabrous at bottom to slightly villous-hirsute in the inflorescence, leafy to the top; radical and lower cauline leaves about 5 inches long, on peti-